(Amendment under PCT Article 34 filed on July 25, 2005)

CLAIMS

1. (currently amended) A conductive adhesive comprising metal powder as a conductive medium and a one-component epoxy thermosetting resin composition as a binder resin component, wherein

the metal powder is silver powder or mixed metal powder comprising silver powder mixed with a small quantity of other metal powder,

wherein the ratio of the silver powder to the entire metal powder is selected to be at least within the range of 70% or more in a volume ratio,

said one-component epoxy thermosetting resin composition is a composition comprising only epoxy thermosetting resin as a resin component therefor, which composition is a liquid composition comprising, as essential components:

(a) an epoxy resin component containing at least a multifunctional epoxy compound having a polycyclic aromatic ring skeleton as a main component therein, and

(b) a cyclic acid anhydride having an acid anhydride moiety constituting a ring structure in the molecule as a curing agent,

in a ratio of 0.7 to 1.1 equivalents of the cyclic acid anhydride of the curing agent (b) with respect to the epoxy equivalent of the epoxy resin component (a),

the adhesive is a dispersion in which the metal powder is dispersed in said one-component epoxy thermosetting resin composition with a content ratio of the metal powder to the binder resin component (metal:resin volume ratio) being selected within a range between 30:70 and 64:36.

2. The conductive adhesive as claimed in claim 1, characterized in that said one-component epoxy thermosetting resin composition is added with a coupling agent as an adherence imparting agent.

3. The conductive adhesive as claimed in claim 1 or 2, characterized by comprising

at least a bifunctional epoxy compound containing a naphthalene skeleton

as one of said multifunctional epoxy compounds having a polycyclic aromatic ring skeleton that is a main component of the epoxy resin component (a).

4. (currently amended) The conductive adhesive as claimed in claim 1, characterized by comprising

at least dihydroxynaphthalene diglycidylether as said bifunctional epoxy compound containing a naphthalene skeleton.

5. The conductive adhesive as claimed in any one of claims 1 to 4, characterized in that said one-component epoxy thermosetting resin composition further comprising;

(c) a cure accelerator having a function to accelerate heat curing reaction by the cyclic acid anhydride of the curing agent (b), and

the amount of the cure accelerator (c) to be added thereto is selected to be within the range of a catalytic quantity to the epoxy resin component (a).

6. The conductive adhesive as claimed in any one of claims 1 to 5, characterized in that the cyclic acid anhydride of the curing agent (b) is a cyclic acid anhydride in which

the ring structure constituted by the acid anhydride moiety is a 5-member or 6-member ring, and

another hydrocarbon ring skeleton is condensed with the ring structure constituted by the acid anhydride moiety; and

the hydrocarbon ring skeleton is a hydrocarbon ring skeleton having a total number of carbon atoms of 8 or more, having two or more chain-like hydrocarbon substituent group, or having a bridged chain on the ring.

7. The conductive adhesive as claimed in any one of claims 1 to 6, characterized in that

said epoxy resin component (a) comprises a multifunctional epoxy compound having another ring structure in the skeleton, in addition to the multifunctional epoxy compound having a polycyclic aromatic ring skeleton, which is the main component thereof, and

the blending ratio of the multifunctional epoxy compound having the another ring structure in the skeleton to 100 parts by mass of the multifunctional epoxy compound having the polycyclic aromatic ring skeleton is selected to be within the range between 5 and 50 parts by mass.

8. The conductive adhesive as claimed in any one of claims 2 to 7, characterized by further comprising a silane coupling agent as said coupling agent.

9. (currently amended) The conductive adhesive as claimed in any one of claims 1 to 8, characterized in that the metal powder is silver powder or mixed metal powder formed by mixing a small quantity of other metal powder to silver powder, and the ratio of the silver powder to the entire metal powder is selected to be at least within the range of 90% or more in a volume ratio.

10. (new) The conductive adhesive as claimed in any one of claims 1 to 9, characterized in that said other metal powder that is mixed with silver powder is chosen from cupper powder or zinc powder.

11. (new) The conductive adhesive as claimed in any one of claims 1 to 10, characterized in that in said one-component epoxy thermosetting resin composition,

in addition to the multifunctional epoxy compound having a polycyclic aromatic ring skeleton, which is a major component therein, said epoxy resin component (a) further comprises a multifunctional epoxy compound having other ring structures in the skeleton,

wherein the blending ratio is selected in such a ratio that the mole ratio of said multifunctional epoxy compound having the polycyclic aromatic ring skeleton to the multifunctional epoxy compound having other ring structures in the skeleton is within the range between 95:5 and 70:30.

12. (new) The conductive adhesive as claimed in claim 11, characterized in that as said multifunctional epoxy compound having other ring structures in the skeleton used in combination, a bisphenol A-type epoxy resin or dicyclopentadiene-type epoxy resin is employed.